

44. (NEW) A mutant mammalian IL8A receptor having an amino acid sequence which differs from a wild type IL8A receptor having a wild type amino acid sequence comprising an amino acid motif (X₁X₂X₃X₄) proximal to the carboxy terminal end of said wild type amino acid sequence, wherein:

X₁ denotes an amino acid residue at position 1 of said motif and is selected from the group consisting of Phe, Leu, Val, and Tyr;

B1 X₂ denotes an amino acid residue at position 2 of said motif and is selected from the group consisting of Phe, Lys and Gln;

X₃ denotes an amino acid residue at position 3 of said motif and is selected from the group consisting of Leu, Arg, Glu, Asn, Gln, Ser, Ala, Leu ; and

X₄ denotes an amino acid residue at position 4 of said motif and is selected from the group consisting of Ala, Cys, Asp, Glu, Gly, Ser, Thr and Tyr; and

wherein said mutant receptor comprises a seventh transmembrane domain with a carboxy terminal end; and

at least one point mutation at a position in said amino acid motif, wherein said point mutation is selected from the group consisting of: Arg to Trp at position 73, Met to Ile at position 246, and Gly to Arg at position 320, wherein upon interaction with a ligand to modulate a signal transduction pathway in a cell, a signal generated by said mutant receptor is greater than a signal generated upon interaction of said ligand with a wild type IL8A receptor.

45. (NEW) The receptor of claim 44, wherein said cell is a yeast cell.

46. (NEW) The receptor of claim 45, wherein said receptor acts as a surrogate for an endogenous yeast pheromone receptor in a pheromone response pathway of said cell.

47. (NEW) The receptor of claim 45, wherein said cell belongs to the species *Saccharomyces cerevisiae*.

48. (NEW) The receptor of claim 44, wherein said cell is a mammalian cell.

49. (NEW) The receptor of claim 44, wherein said receptor containing said amino acid motif with no point mutation therein generates no detectable signal.

50. (NEW) The receptor of claim 44, wherein said point mutation comprises mutagenization at position 4 of said amino acid motif to Arg or to Lys.

51. (NEW) The receptor of claim 44, wherein said ligand is interleukin 8 (IL8) or melanoma growth-stimulating activity-alpha (MGSA/GRO α).

B1 52. (NEW) A mutant galanin receptor-1 having an amino acid sequence which differs from a wild type galanin receptor-1 having a wild type amino acid sequence comprising an amino acid motif (X₁X₂X₃X₄) proximal to the carboxy terminal end of said wild type amino acid sequence, wherein:

X₁ denotes an amino acid residue at position 1 of said motif and is selected from the group consisting of Phe, Leu, Val, and Tyr;

X₂ denotes an amino acid residue at position 2 of said motif and is selected from the group consisting of Phe, Lys and Gln;

X₃ denotes an amino acid residue at position 3 of said motif and is selected from the group consisting of Leu, Arg, Glu, Asn, Gln, Ser, Ala, Leu ; and

X₄ denotes an amino acid residue at position 4 of said motif and is selected from the group consisting of Ala, Cys, Asp, Glu, Gly, Ser, Thr and Tyr; and

wherein said mutant receptor comprises a seventh transmembrane domain with a carboxy terminal end; and

at least one point mutation in said amino acid motif comprising Gly to Ala at position 320, wherein upon interaction with a ligand to modulate a signal transduction pathway in a cell, a signal generated by said mutant receptor is greater than a signal generated upon interaction of said ligand with a wild type galanin receptor-1.

53. (NEW) A mutant galanin receptor-1 having an amino acid sequence which differs from a wild type galanin receptor-1 having a wild type amino acid sequence

comprising an amino acid motif ($X_1X_2X_3X_4$) proximal to the carboxy terminal end of said wild type amino acid sequence, wherein:

X_1 denotes an amino acid residue at position 1 of said motif and is Phe;

X_2 denotes an amino acid residue at position 2 of said motif and is Arg;

X_3 denotes an amino acid residue at position 3 of said motif and is Lys; and

X_4 denotes an amino acid residue at position 4 of said motif and is selected from the group consisting of Lys and Arg;

wherein said mutant receptor comprises a seventh transmembrane domain with a carboxy terminal end; and

wherein upon interaction with a ligand to modulate a signal transduction pathway in a cell, a signal generated by said mutant receptor is greater than a signal generated upon interaction of said ligand with a wild type galanin receptor-1.

54. (NEW) The receptor of claims 52 or 53, wherein said cell is a yeast cell.

55. (NEW) The receptor of claim 54, wherein said receptor acts as a surrogate for an endogenous yeast pheromone receptor in a pheromone response pathway of said cell.

56. (NEW) The receptor of claim 54, wherein said cell belongs to the species *Saccharomyces cerevisiae*.

57. (NEW) The receptor of claims 52 or 53, wherein said cell is a mammalian cell.

58. (NEW) The receptor of claim 52, wherein said receptor containing said amino acid motif with no point mutation therein generates no detectable signal.